

Work Order ID 129406

Friday, February 06, 2015 10:02:48 AM

649.5112
B 129406
REV. A

129406

Page 1

Item ID: 649.5112

Revision ID:

Item Name: Wiper Deflector

Start Date: 2/6/2015 Start Qty: 4.00

Required Date: 2/6/2015 Req'd Qty: 4.00

Reference:

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Approvals:

Process Plan: MLC

Date: 150206 Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start *NR1*

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

649.5100

REV A

0.00

100

100

BAND SAW

0.00

Bandsaw

Memo

Jeaspa Bandsaw

Cut Blank at 7.50"

B. 15/02/08

DAS
08
9-89

0.00

110

110

HAAS CNC VERTICAL MACHINING #1

0.00

HAAS 5AXIS

Memo

HAAS CNC vertical machine #5

1-Machine per folio Fb352

DWG REV: A

FOLIO REV: AA

B. 15/02/08

4 1

DAS
08
9-89

2- deburr and break all sharp edges

PTO →

DQA:

Date: 15/12/03



QA Closed:

Date: 15/12/03

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: <u>129406</u>	DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS			
Part No. <u>649.5112</u>		Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
NCR No. <u>15-5475</u>		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☒	Quality ☐
		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
		Large Fab ☐	Composite ☐	Supplier ☐	

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design ☒									
Doc/Data ☒									
Equip/Tooling ☐									
Handling/Pre ☐									
Material ☐									
Operator ☐	15/02/08	110	1	Bottom contour of part has a .500 x .125" gouge caused by the 5axis post that generated a faulty toolpath.	DAS 9 9-89 15-11-12	Scrap n replace Post has been corrected and updated  15/02/08	B.A. 15/02/08	DAS 9 9-89 15-11-12	DAS 9 9-89 15-11-12
Offset/Setup ☐									
Process ☐									
Supplier ☐									
Training ☐									
Transport ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☒ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge	☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 129406

129406

Page 2

Friday, February 06, 2015 10:02:48 AM

Item ID: 649.5112

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Wiper Deflector

Start Date: 2/6/2015 Start Qty: 4.00 *4*

Cust Item ID:

Required Date: 2/6/2015 Req'd Qty: 4.00 *4*

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start *NR1*

QC: Date: SPC (Y/N): Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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120 QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Memo

0.00

Quality Control

15/02/08

4 1

DAS
08
9-89

130 QC8- Inspect parts - second check

0.00

130

QC

Memo

0.00

Quality Control

15.07.28

4 1

140 Outsource process-Anodize per QSI017 4.1.10.1

0.00

140

Outsource4

Memo

0.00

Outsource process - Anodize

Issue P/O to ATG : 30559

1- Black Anodize as per Dwg 649.5100

2- PRIME AS PER DWG, SEE NOTE #2

Certification of Conformity is required

CLY DEC 02 2015 4

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 129406

129406

Page 3

Friday, February 06, 2015 10:02:48 AM

Item ID: 649.5112

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Wiper Deflector

Start Date: 2/6/2015 Start Qty: 4.00

4

Cust Item ID:

Required Date: 2/6/2015 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150

Receive & Inspect for Damage & Mat'l Certs

0.00

150

Packaging

Memo

0.00

Packaging

4x SPS-1201

155

QC5- Inspect part completeness to step on W/O

0.00

155

QC

Memo

0.00

Quality Control

④

DAS
38
9-89

DEC 01 2015

cct 064

180

Identify as per dwg & Stock Location Stock

0.00

180

Packaging

Memo

0.00

Packaging

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

4 DAS
6
9-89

DEC 02 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 129406***129406***

Page 4

Friday, February 06, 2015 10:02:48 AM

Item ID: 649.5112

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Wiper Deflector

Start Date: 2/6/2015 Start Qty: 4.00

4

Cust Item ID:

Required Date: 2/6/2015 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

15/12/2015

ML5

DEC 02 2015

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Material									
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Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Friday, February 06, 2015 10:02:54 AM

Page 1

Work Order ID: 129406

129406

Parent Item: 649.5112

649 5112

Parent Item Name: Wiper Deflector

Start Date: 2/6/2015

Required Date: 2/6/2015

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV:A NEW ISSUE 13-10-23 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B6.000X6.000		Purchased	No			100	f	47.0000	0.614	3			

M7075T6B6.000X6.000

7075-T6 BAR 6.000" X 6.000" (order in billets)

**

Y.A 15/02/08

4.5" x 5"
Re 15.02.06

Location

Loc Qty

Loc Code

MAT024

47

m123555

1

m124393

2

m126133

4

m126981

40

BLANK CUT AT 7.375" LONG

7.50"

m 130860

2.516 Ft

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Material ☐									
Operator ☐									
Offset/Setup ☐									
Process ☐									
Supplier ☐									
Training ☐									
Transport ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence
		☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge
		☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03525				SHEET 1 OF 2	
	DWG NO. 649.5100	REV: A	PREPARED BY A. QUAN	DATE: 05/24/12	EFFECT ON DWG ☐ INC. ☒ UNINC.	
	DWG TITLE: WIPER DEFLECTORS					
APPROVED BY: ENGR. <i>[Signature]</i>		MFG. <i>[Signature]</i>	QC. <i>[Signature]</i>	EFFECT NEXT ORDER		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED PART DIMENSIONS, ADDED RADIUS				

SHEET 1, ZONE A1 IS:

NOTES:

- 1 MATERIAL: ALUMINUM 7075-7651 PER AMS-QQ-A-250/12.
- 2 FINISH: ANODIZE PER MIL STD-A-8625, TYPE III, CLASS 2, COLOR BLACK;
PRETREAT PROC-DESOTO PR-148 ADHESION PROMOTER;
PRIME TAW MIL-P-23377J TYPE I CLASS N.
- 3 PART CONTROLLED BY CAD MODEL
FILE NAME: 649.5110 WIPER DEFLECTOR.SLDPRT, LAST MODIFIED 12/07/11.
- 4 PART CONTROLLED BY CAD MODEL
FILE NAME: 649.5111 WIPER DEFLECTOR.SLDPRT, LAST MODIFIED 04/11/12.
- 5 PART CONTROLLED BY CAD MODEL
FILE NAME: 649.5112 WIPER DEFLECTOR.SLDPRT, LAST MODIFIED 05/24/12.
- 6 DEBURR AND BREAK ALL SHARP EDGES.
- 7 IDENTIFY TAW MPP-120. LASER ETCH P/N. REVISION. 12 PT. CENTURY GOTHIC.

LAST MODIFIED 05/24/12.

IS

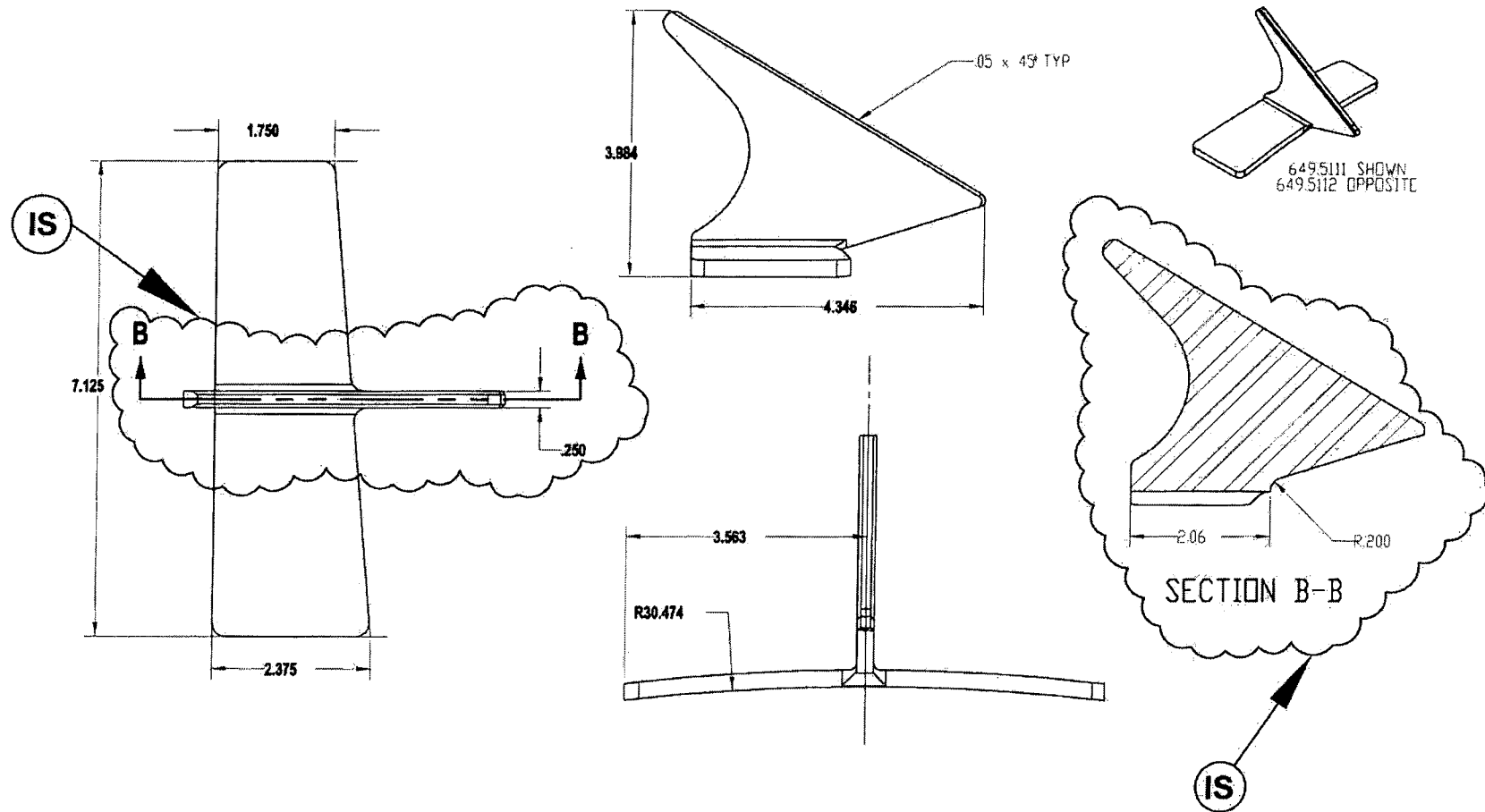
129406 MJS
15-02-06

DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRU ☐ ICA ☐ BOM

CHANGE CATEGORY
☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED
☐ YES ☒ NO

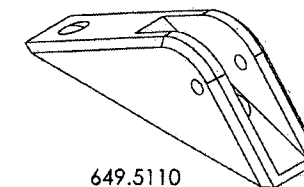
SHEET 2, ZONE B5 IS:

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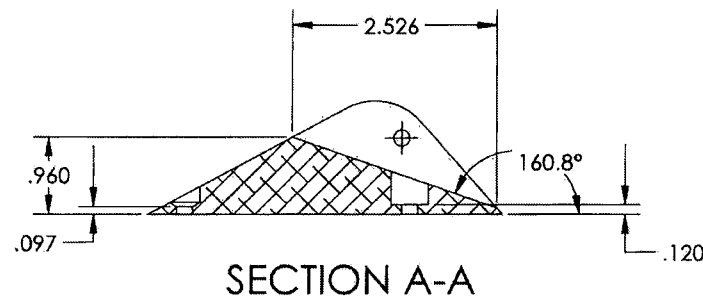
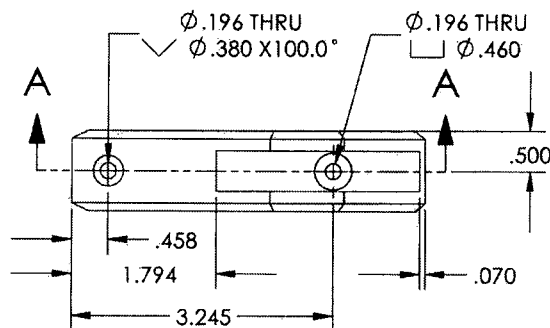
NOTES:

- 1 MATERIAL: ALUMINUM 7075-7651 PER AMS-QQ-A-250/12.
- 2 FINISH: ANODIZE PER MIL-STD-A-8625, TYPE III, CLASS 2, COLOR BLACK;
PRETREAT PRC-DESOTO PR-148 ADHESION PROMOTER;
PRIME IAW MIL-P-23377J TYPE I CLASS N.
- 3 PART CONTROLLED BY CAD MODEL
FILE NAME: 649.5110 WIPER DEFLECTOR.SLDPR1, LAST MODIFIED 12/07/11.
- 4 PART CONTROLLED BY CAD MODEL
FILE NAME: 649.5111 WIPER DEFLECTOR.SLDPR1, LAST MODIFIED 04/11/12.
- 5 PART CONTROLLED BY CAD MODEL
FILE NAME: 649.5112 WIPER DEFLECTOR.SLDPR1, LAST MODIFIED 04/11/12.
- 6 DEBURR AND BREAK ALL SHARP EDGES.
- 7 IDENTIFY IAW MPP-120. LASER ETCH P/N REVISION, 12 PT. CENTURY GOTHIC.

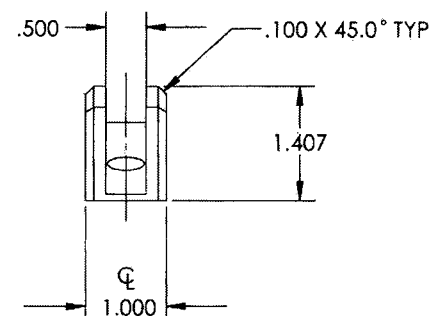
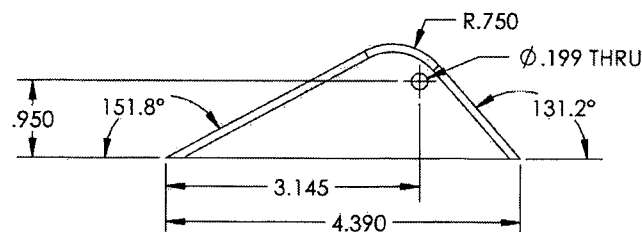
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
REV.	LAT. PROTOTYPE REVISION: PR1		N/A
INIT.	INITIAL RELEASE	12-07-11	P. BRAVO
A	INCORPORATED ECN 03474	04-11-12	P. BRAVO



649.5110



SECTION A-A



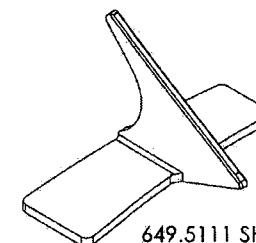
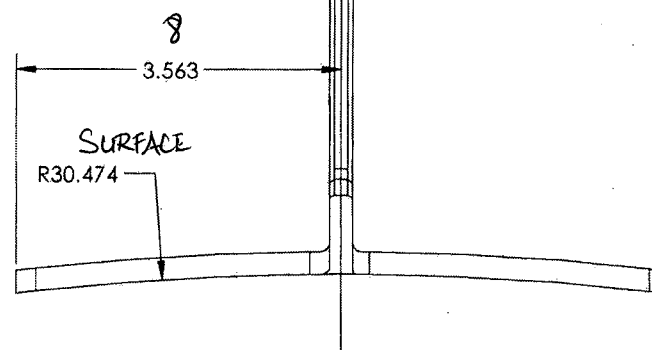
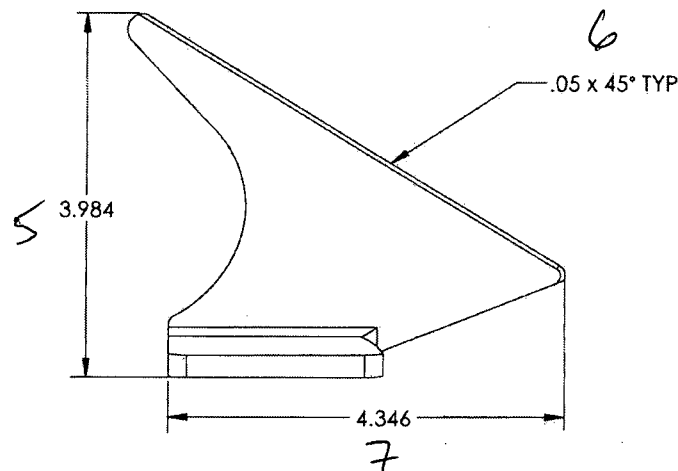
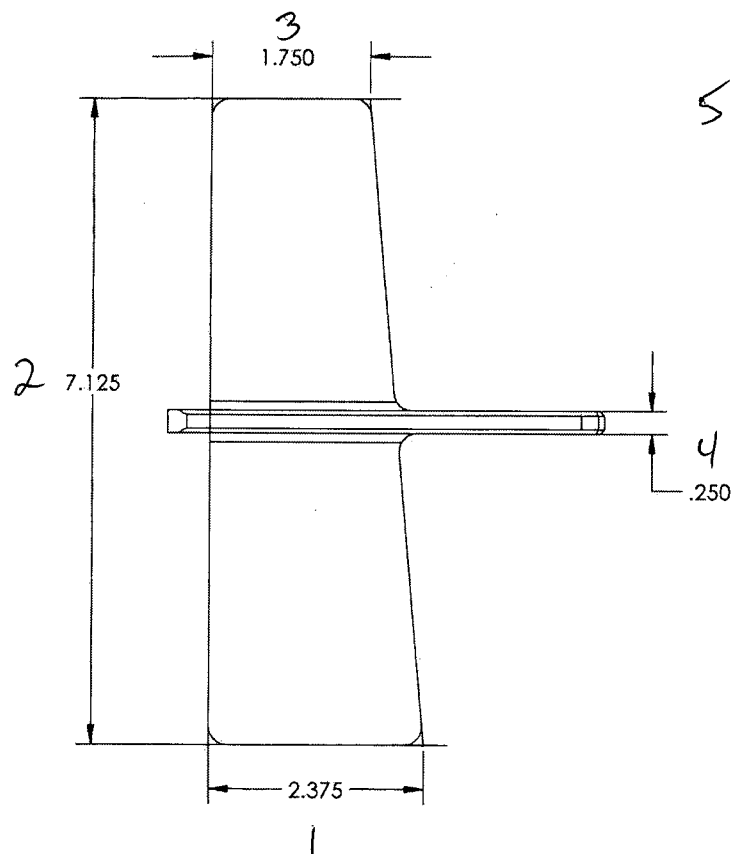
UNINCORPORATED ECN(s)

03525

QTY	3	649.5112	RH WIPER DEFLECTOR	△1	△2	△3
	2	649.5111	LH WIPER DEFLECTOR	△1	△2	△4
	1	649.5110	WIPER DEFLECTOR	△1	△2	△3
FIND #	PART #	DESCRIPTION	MATL	SPEC.		
PARTS LIST						
ORIGINAL DATE: 12-07-11						
DRAWN BY: A. GUAN						
CHECKED BY: P. BRAVO						
DRAWING APPROVAL: P. BRAVO						
CONTRACT NO.						
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES						
TOLERANCES ARE:						
2 PLACE DECIMALS ±.010						
3 PLACE DECIMALS ±.005						
ANGLES ±.5°						
NEXT ASSY (S)			APICAL INDUSTRIES			
649.4700			2608 TEMPLE HEIGHTS DR.			
			OCEANSIDE, CA. 92056-3512 (760)724-5300			
			WIPER DEFLECTORS			
			SIZE: 07M76		DWG. NO. 649.5100	
			SCALE: NONE		REV. A	
					SHEET 1 OF 2	

1 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF
2 APICAL INDUSTRIES ANY REPRODUCTION IN PART OR WHOLE WITHOUT
3 THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



649.5111 SHOWN
649.5112 OPPOSITE

ORIGINAL DATE 12/02/11		APICAL INDUSTRIES	
DRAWN BY A. QUAN		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY P. BRAVO		WIPER DEFLECTORS	
DRAWING APPROVAL P. BRAVO		SIZE 8	REV A
CONTRACT NO.		DWG. NO. 649.5100	SHEET 2 OF 2
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .03 3 PLACE DECIMALS ± .010 ANGLES ± .5°		SCALE NONE	



Part Number: 649.5112	Rev: A	- Page 1 -
Description: WIPER DEFLECTOR	Inspection Dwg: 649.5100	Work Order: 129406

Item Ref.	Nominal	Tolerance	No. Piece_1 Actual	No. Piece_2 Actual	No. Piece_3 Actual	No. Piece_4 Actual	
1	2.3750	+0.0100/-0.0100	2.3730	2.3660	2.3666	2.3664	
2	7.1250	+0.0100/-0.0100	7.1245	7.1237	7.1241	7.1227	
3	1.7500	+0.0100/-0.0100	1.7482	1.7532	1.7538	1.7506	
4	0.2500	+0.0100/-0.0100	0.2516	0.2518	0.2515	0.2512	
See attached for Element 5							
5	3.9840	+0.0100/-0.0100	3.9696	3.9691	3.9685	3.9690	
D6	0.050	+0.030/-0.030	0.048	0.049	0.048	0.048	
7	4.3460	+0.0100/-0.0100	4.3432	4.3403	4.3402	4.3406	
8	3.5630	+0.0100/-0.0100	3.5623	3.5598	3.5601	3.5591	
Surface	0.0000	+0.0100/-0.0100	0.0035	0.0039	0.0041	0.0042	
Surface	0.0000	+0.0100/-0.0100	0.0031	0.0039	0.0030	0.0039	

Measured by:
Mathieu Lamarche

Date:
2015-7-28

Audited by: *RP*

Date: *18.07.28*

Jean-Luc Menard

From: Pablo Bravo
Sent: February-13-15 4:55 PM
To: Jean-Luc Menard
Cc: Regis Quenneville
Subject: RE: 649.5100

JL,

Use the dimension from the CAD file. I think the discrepancy is caused from the part being curved underneath. Depending on where you move the dimension in SOLIDworks, you might end up with a bunch of different values. Using the CAD file is more accurate.

Thanks,

Pablo

From: Jean-Luc Menard
Sent: Friday, February 13, 2015 10:13 AM
To: Pablo Bravo
Cc: Regis Quenneville
Subject: 649.5100

Hi Pablo,

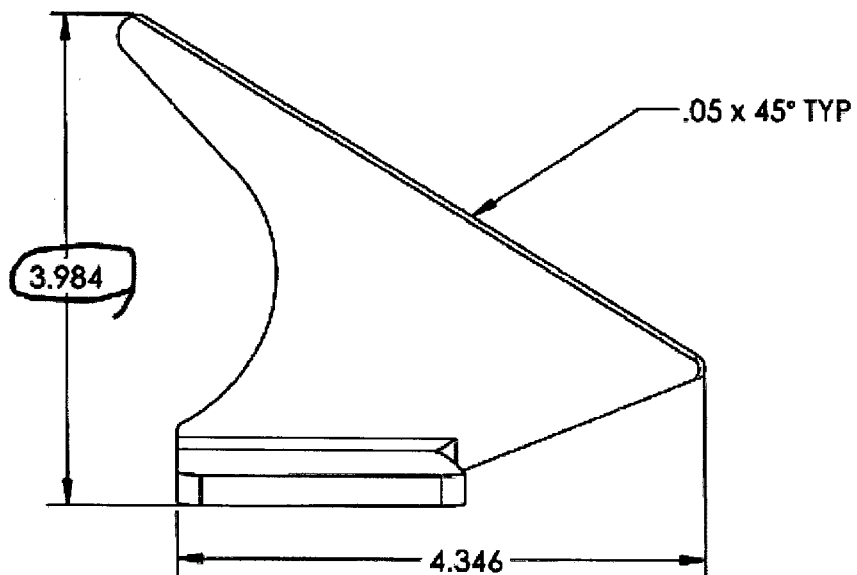
We are currently programming the 649.5111 to manufacture in house, there is a discrepancy between the dwg and cad file.

Cad file is at 3.972" dwg is calling 3.984" +/- .005".

Let me know which one is correct.

THX

JL



Jean-Luc Ménard
Production Engineering Supervisor

DART AEROSPACE
T 1 613 632-5200 > 227
F 1 613 632-5246
1 800 556- 4166
www.dartaerospace.com



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO30559**

Purchase Order Date 11/24/2015

PO Print Date 11/26/2015

Page Number 2 of 3

Order From :

VC-ATG001

Ship To : DART AEROSPACE LTD

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 613-446-4544

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Ship To Contact

Terms Net 30

Ship To Phone

Currency CAD

Ship Via:

VENDOR'S TRUCK

FOB

FCA - (Free Carrier)

Ship Acct:

Line Total: \$83.32

4 129406

649.5112 WIPER
DEFLECTOR REV. A

11/30/2015

4.00

\$57.19

\$228.76

Yes

11/30/2015

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377 TYPE I CLASS N

Line Total: \$228.76

5 71401-45

PROCUREMENT
QUALITY CLAUSES

11/26/2015

1.00

\$0.00

\$0.00

No

11/26/2015

Procurement Quality Clauses

A004 FAA-PMA /TSO

A005 RIGHT OF ENTRY

A016 PERSONNEL QUALIFICATION

A024 PROCESS CERTIFICATIONS

A025 CERTIFICATE OF CONFORMANCE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER

A043 RETENTION OF QUALITY DOCUMENTS

Line Total: \$0.00

Note:

11/26/2015



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 64025

Date: 01-Dec-15

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

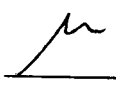
DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms		Ship Via	
Quantity	Description		
12 ea	Part: D4726-1 HANDLE HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 Job: 20150860	Rev: A	PO: PO30559 Line:
2 ea	Part: D5355-043 AFT SUPPORT BLACK ANODIZE MIL-A-8625 TYPE II CLASS 2 Job: 20150861	Rev: PA6	PO: PO30559 Line:
4 ea	Part: 649.5112 WIPER DEFLECTOR HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 PRIME MIL-P-23377J TYPE I CLASS N Job: 20150862	Rev: A	PO: PO30559 Line:
Certificate of Conformance A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order. ISO 9001 : 2008 REGISTERED ATG SALES-2010 TERMS APPLY DATE: <u>1/12/15</u> CERTIFIED SIGNATURE: <u></u> RECEIVER SIGNATURE: _____			

SP15-2-01